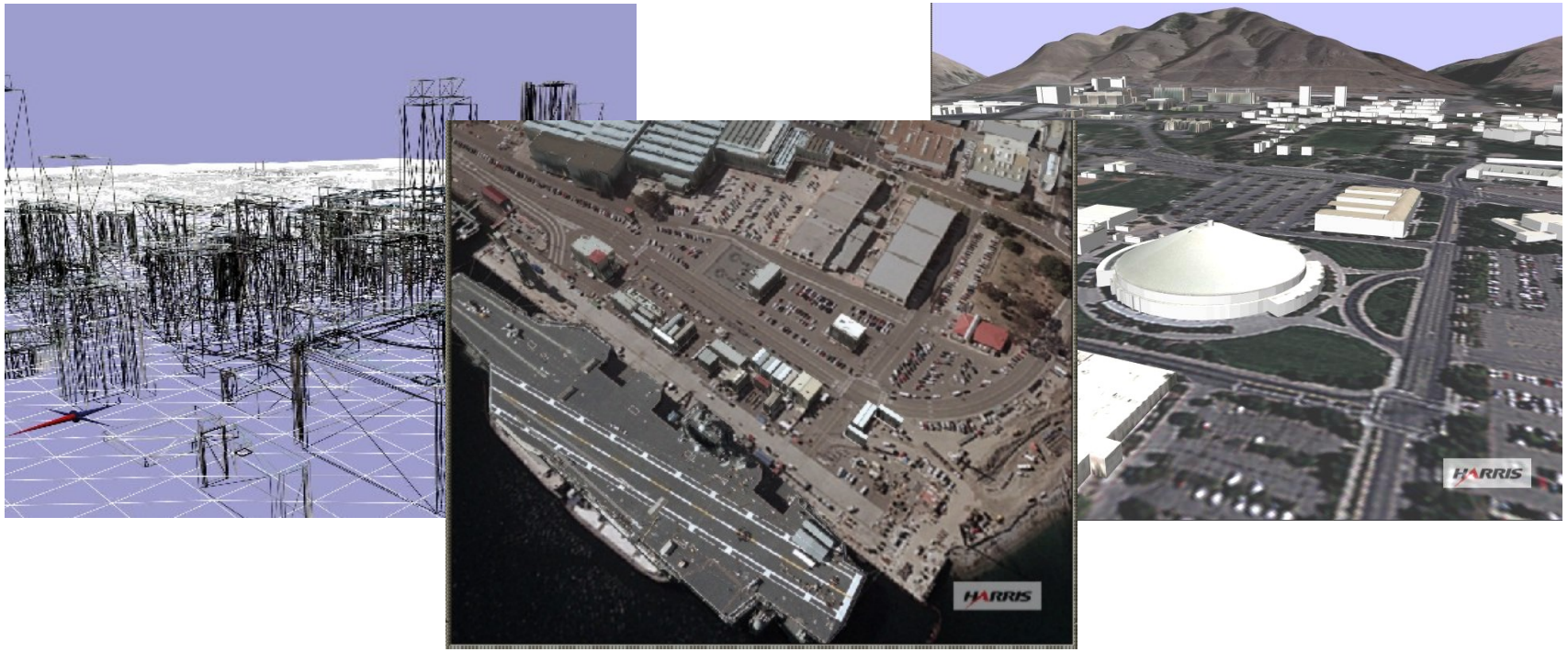
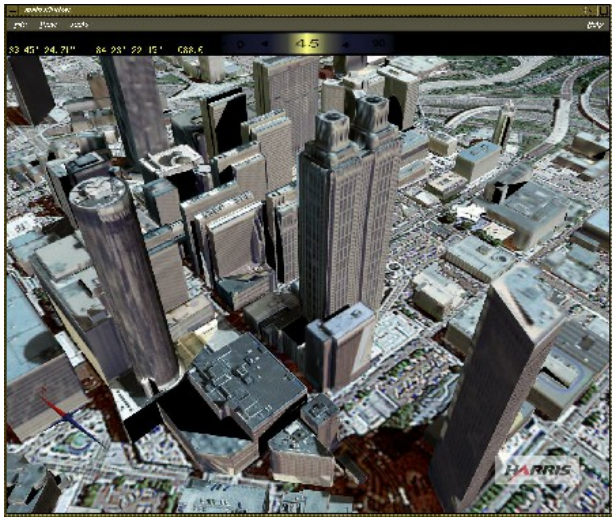
RealSite ™ and InReality ™

Product Descriptions

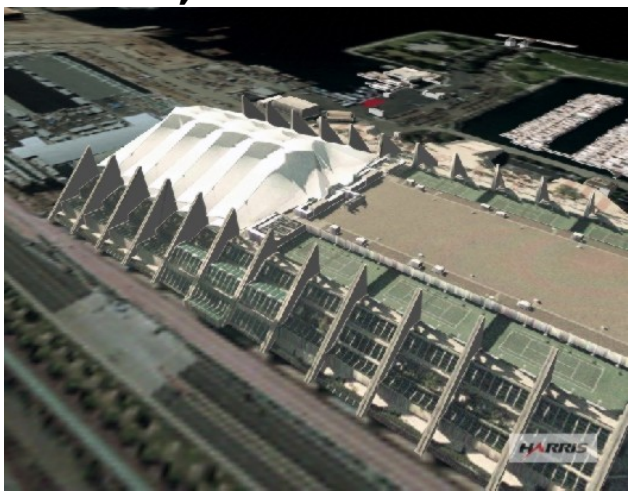


Company Private: Proprietary

RealSite – 3D Urban Models



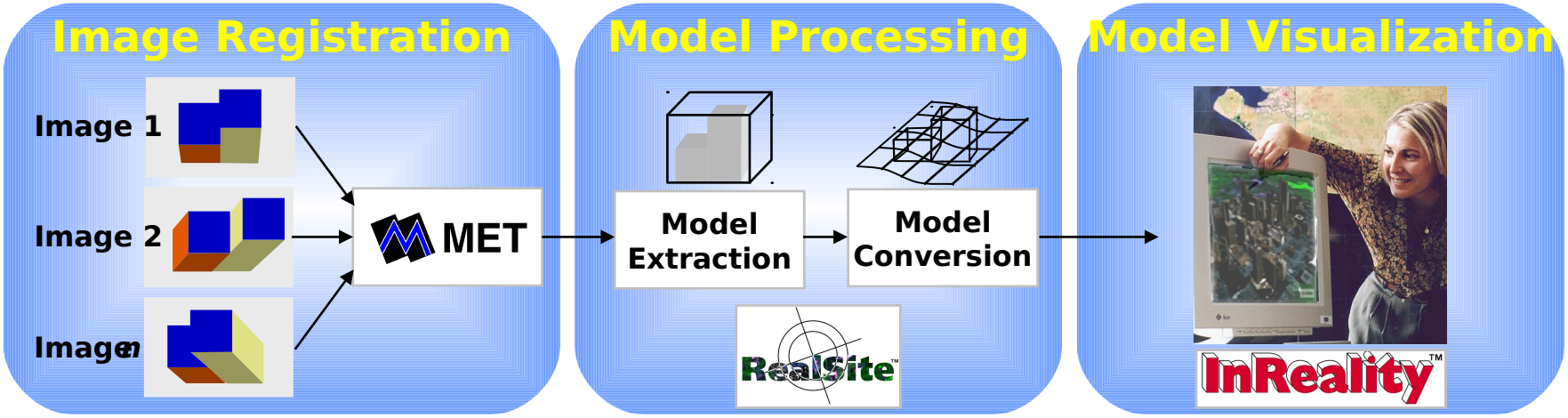
Harris has developed RealSite™, a capability to autonomously and partially autonomously build 3D site models. This process produces affordable, rapidly created, geospatially accurate (within one meter, two meter relative)



multi-source
Such sources can include aerial and satellit photography, electro-optical, infrared, SAR hyperspectral and LIDAR.

These models contain photo-realistic textu Hand-held photographs can be easily appli to improve this realism and resolution.

3D Site Modeling Processing Overview



- Product planning tool used to locate appropriate images
- Images registered automatically with MET
- At least two overlapping images required
- Image sources include aerial photography, commercial satellite imagery (SpaceImaging, Digital Globe, NTM)

- High resolution elevation models extracted using stereo and Nview techniques
- 3D site models extracted of buildings
- Multiple polygonal output formats
- Relative and absolute accuracy 1-2 meters.
- Automatic texture mapping

- Intuitive, interactive scene navigation
- Portable visualization/ exploitation components
- Multiple exploitation environments/ applications
- Win/NT and IRIX supported

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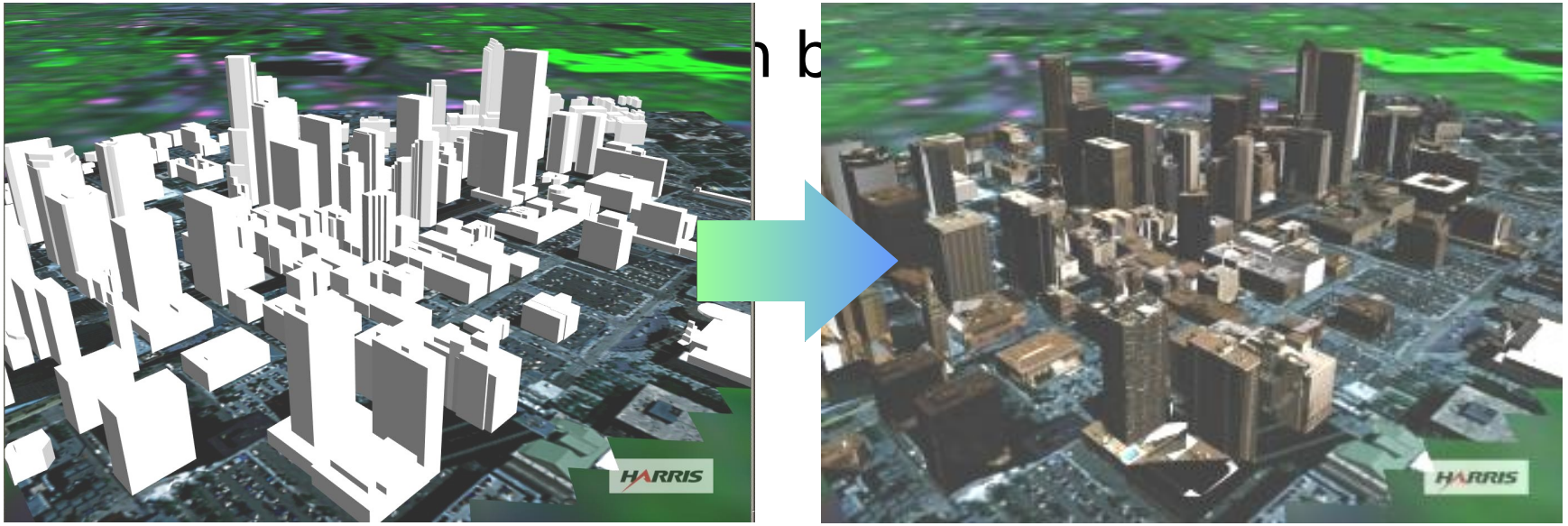
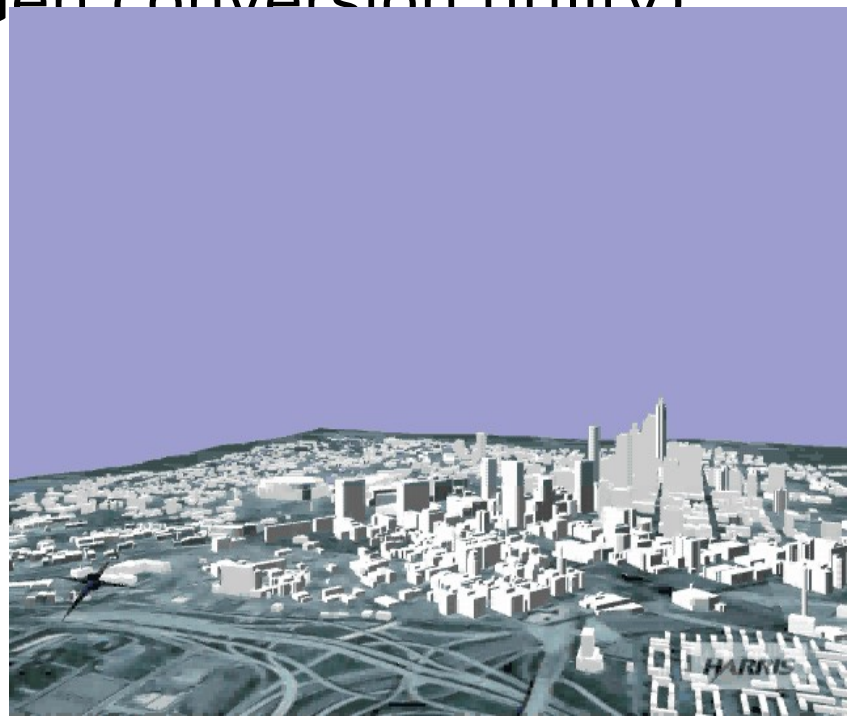
Precision Registration Allows Automatic Texture Mapping

- Images with best collection angle on each polygon automatically selected as texture map
- Texture mapping includes full obscuration tests



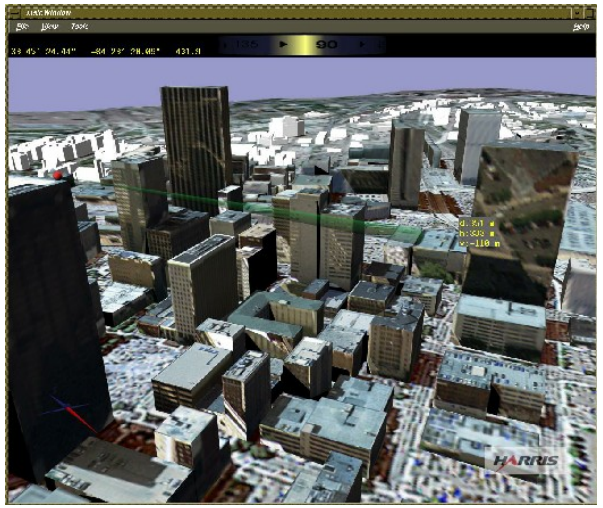
Site Model Output Formats

- Multiple formats to support COTS viewers and tools
  - Open Inventor (native output type)
  - OpenFlight (via MultiGen conversion utility)
  - DXF/AutoCAD
  - VRML
  - SEDRIS
  - Image height maps
  - ArcView Shapefile
  - EDX SignalPro
  - Maya



InReality – 3D Viewer

Portable, Real-Time, High Performance



- Geospatially Referenced
- Intuitive Navigation
- Record play back travel paths as AVIs
- Load and Manage large scenes

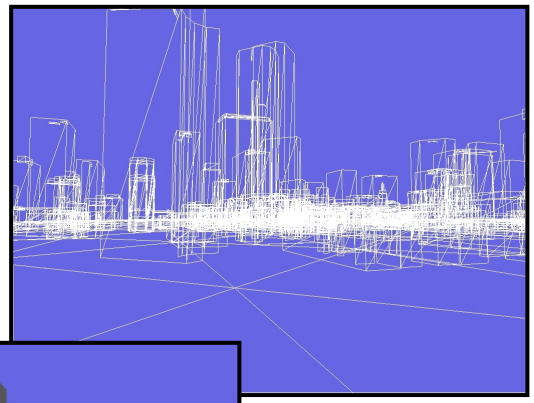
Operates on a variety of platforms from PC desktops and laptops to SGI Onyx Supercomputers:

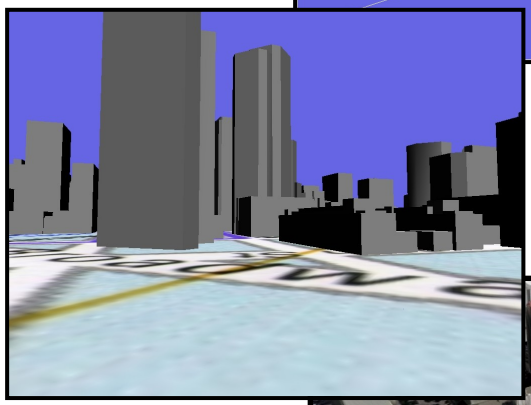
Harris has developed InReality™ which allows the user to view RealSite models within a virtual environment.

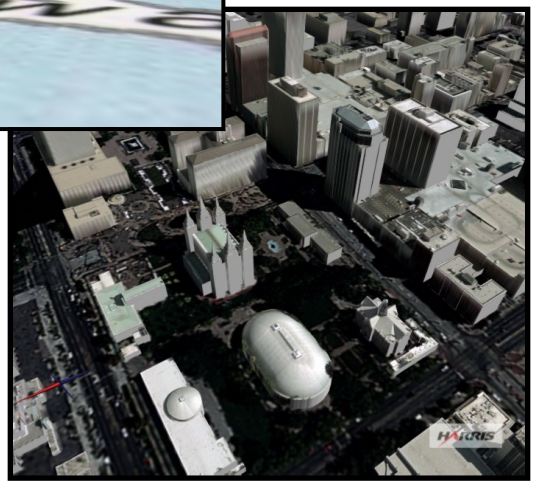
The user can view scenes from either a first person or north-up cartographic perspective while having continuously updated geoposition and heading information displayed in an easy to understand graphical interface.

Other viewer exploitation features

- Point and click navigation
- Any View Any Where™
- Simultaneous map and perspective views
- Compass and heading indicators
- Mensuration and Ranging
- Geopositioning
- Line-of-sight determination
- 3D Annotations
- Links to other geospatially referenced applications







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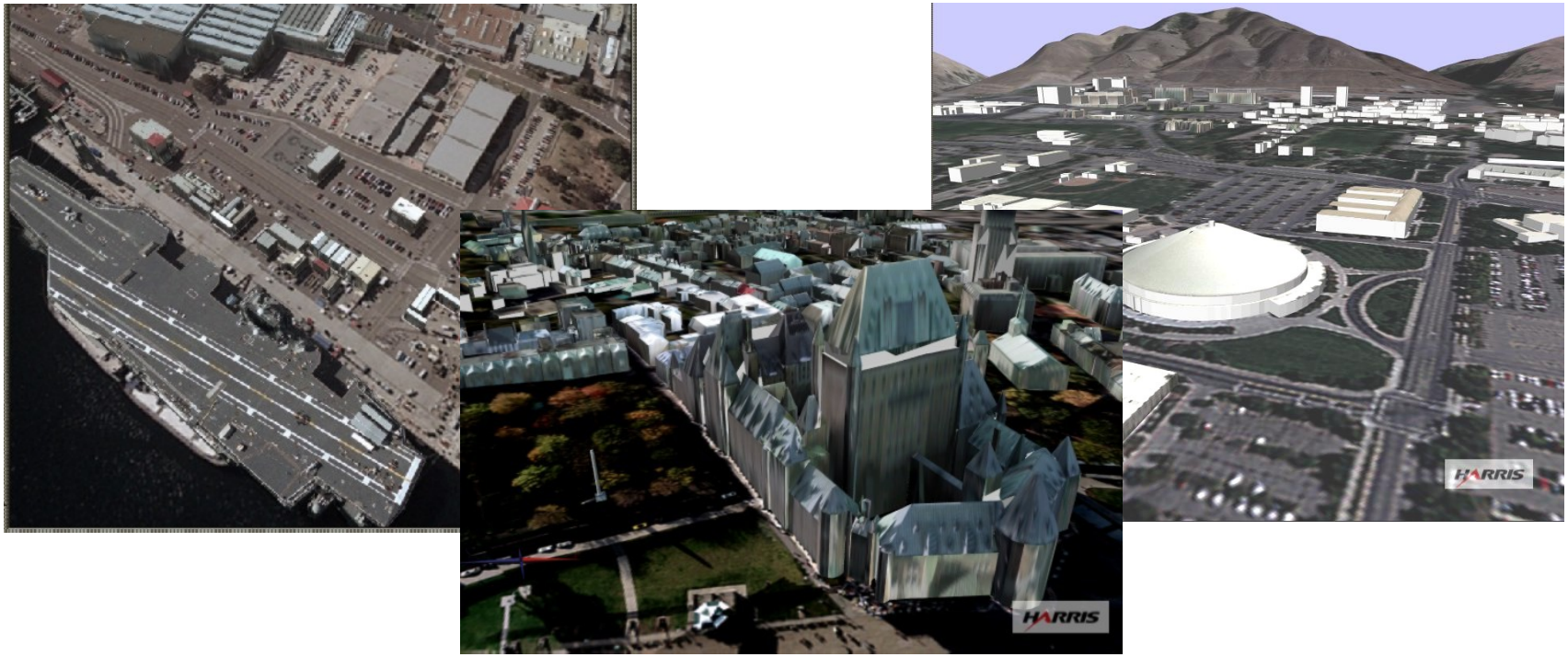
RealSite ™ and InReality ™

In the Field



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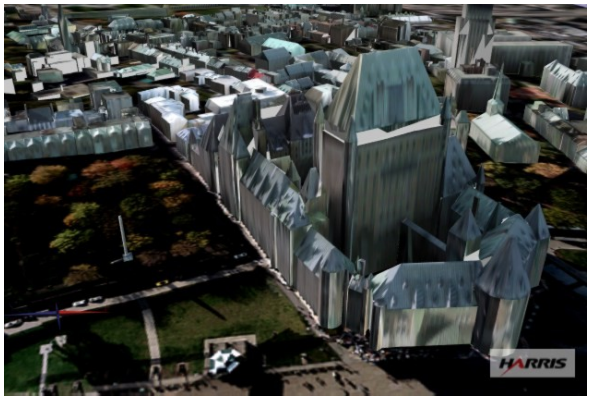
Quebec City

Harris and the Defence Research Establishment Valcartier (DREV) recently collaborated to showcase next-generation three-dimensional (3D) visualization tools to the agencies in charge of security during the Summit of the Americas, April 20-22, 2001.

The sophisticated suite of tools, which include realistic scene visualization Quebec City for situational awareness was demonstrated to the security fo charge of protecting the 34 international leaders and other diplomats atte the Summit.



The 3D urban modeling software developed by Harris was the main focus of the demonstrat Harris supplied the Canadian DREV with a 3D m of Quebec City and the surrounding area; InReality™ visualization software; and the Silicon Graphics computer equipment used to display the virtual city.

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Analysis, Location Assessment

Harris Corporation freely donated time, services and assistance to help in the aftermath of September 11. This included constructing a model of Lower Manhattan in those following days.

Using aerial imagery, the Manhattan model was built in just 2 days. MSNBC aired a program in November titled MSNBC Investigates:"Out of the Rubble," which focused on the World Trade Center twin towers. The NBC Animation department used the Manhattan model to create a flyover showing the buildings and using color coding to depict the different types of damage. Harris also integrated LiDAR data into this model to depict ground zero.

Model built with Imagery Provided by EarthData and SpaceImaging.com

Olympics - Salt Lake City

Model Construction began June 2001 for NBC use of 3D models to enhance Olympic Coverage

Mormon Tabernacle

February 2002 on-air features also included sports venues such as skiing, bobsled

Rice-Eccles Stadium

Modeled 35km² of downtown and several other Olympic venues for NBC Sports

Produced over 3GB of data

Reformatted in Maya for on-air

Police, Fire, Rescue 9-11 Dispatch, SWAT, Bomb Squad

January 2002

Jacksonville Sheriff's Office

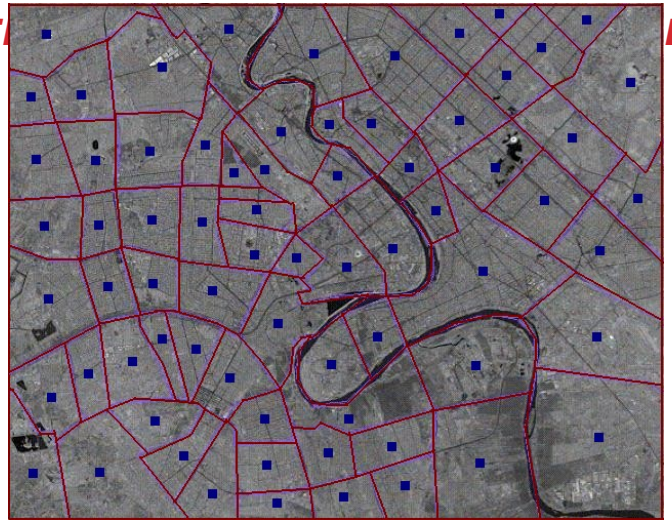
Multi-departmental

Jacksonville – RealSite city model

Jacksonville – Real city

Iraqi Freedom Baghdad Model & Viewer

Largest 3D model ever produced
Fastest 3D model ever produced (2.5 months)
11 commercial DigitalGlobe images
1.2 million structures modeled
Produced for US Army (NGIC)
Total size of model 10 Gigabytes
Model delivered on laptop with InReality
Model still in use by US Army for new t[illegible]rization



RealSite advances:
- **Managed of over 44 GB of source imagery**
- **Managed a team of over 70 unskilled labor**

InReality advances:
- **Each scene loaded from image overlay**
- **Data encrypted for protection**